

REMARKS/ARGUMENTS

Status of the Application

In the Non-Final Office Action dated August 8, 2007, Claims 1-5, 7-14, and 16 were rejected. In the present response, Claim 8 has been canceled and Claims 1, 5, and 7 have been amended. Thus, Claims 1-5, 7, 9-14, 15 and 16 are pending in the present application, with Claim 15 withdrawn. The present response also includes several amendments to the Specification necessary to fix typographical errors in Tables 1, 2, 5, 6, and 7 of the application. As corrected, these Tables accurately reflect the accompanying descriptive text. In addition, one correction was made to fix a typographical error in the text. Applicants believe that no new matter was added in making these amendments.

Rejections Under 35 U.S.C. § 112, 2nd Paragraph

Claims 1-5, 7-14, and 16 were rejected under 35 U.S.C. § 112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner stated that Claim 1 contains an improper Markush group. Claim 1 has been amended to place the Markush group in proper form. Applicants therefore respectfully request reconsideration of the rejection.

Rejections Under 35 U.S.C. § 102(b)

Examiner has rejected Claims 1-5, 8, and 9 under 35 U.S.C. § 102(b) as being anticipated by Kosinski (U.S. Patent No. 5,237,008). Applicants have amended Claim 1, upon which all of the other rejected claims rely, to obviate this rejection.

As amended, there is no overlap between the amount of thermoplastic polymer in the polyoxymethylene composition disclosed in Kosinski and the amount of thermoplastic polymer in the composition of Claim 1. Applicants therefore respectfully request reconsideration of this rejection.

Rejections Under 35 U.S.C. § 103(a)

Examiner has rejected Claim 14 under 35 U.S.C. § 103(a) as being obvious over Kosinski (U.S. Patent No. 5,237,008), as applied to claims 1-5, 8, and 9 above, and further in view of Shofner (U.S. Patent No. 3,813,212). Applicants respectfully traverse this rejection. As stated above, Kosinski fails to disclose all elements of amended Claim 1, upon which Claim 14 depends. As such, even if Shofner were to disclose the additional element of Claim 14, which Applicants do not admit, a combination of Kosinski and Shofner would fail to teach the invention of that claim. Thus, Applicants assert that this combination of references fails to make Claim 14 obvious and therefore respectfully request that this rejection be withdrawn and the claim allowed.

Examiner has also rejected Claims 1, 5, 7, 9, and 16 under 35 U.S.C. § 103(a) as being obvious over JP 2002309064A (Nakamura) in view of Kosinski (U.S. Patent No. 5,237,008). Applicants respectfully traverse this rejection.

Examiner asserts that Nakamura teaches a composition comprising 0-100 wt% polyoxymethylene and 0-100 wt% polycarbonate resin, which resin meets the limitations of the thermoplastic polymer of the present invention. However, Examiner concedes that Nakamura fails to teach that this polyoxymethylene composition could be used as a substrate in a layered article. Examiner states, however, that Kosinski discloses that polyoxymethylene articles can be used as a substrate for laminating, and thus teaches and makes obvious the present invention in combination with Nakamura. However, Applicants contend that these disclosures fail to make obvious the present invention.

As stated in MPEP § 2145.X.D., it is improper to combine references where they teach away from the present invention, and “[a] reference may be said to teach away when a person of ordinary skill in the art, upon reading the reference, . . . would be led in a direction divergent from the path that was taken by the applicant,” *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360 (Fed. Cir. 1999), keeping in mind that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention,” MPEP § 2141.02.VI (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220

USPQ 303 (Fed. Cir. 1983)). Further the MPEP states at § 2145.X.D.2 that “[i]t is improper to combine references where the references teach away from their combination.” As the references cited by Examiner to find the current invention obvious both teach away from the present invention and teach away from each other, this combination of references is improper.

Kosinski discloses a particular percentage range of polymer additive useful in that invention (0.2-3.0%; see Kosinski at col. 3, lines 15-23). In so doing, Kosinski teaches away from utilizing higher percentages of polymer, stating that utilizing increased amounts of polymer “may result in a loss of other physical properties of the polyoxymethylene . . . [and] may also give rise to molded parts having undesirable characteristics, such as LLDPE and polyoxymethylene separation (de-lamination), sink marks, flow marks, etc.” Kosinski at col. 3, lines 26-33 (emphasis added). Kosinski therefore generally teaches away from its combination with any reference that utilizes greater than 3% polymer in a polyoxymethylene composition. As Nakamura is such a reference, Kosinski teaches away from its combination with Nakamura, thereby making such a combination improper.

In addition, Kosinski teaches away from the present invention. The Kosinski disclosure states that inclusion of >3% polymer “may result in a loss of other physical properties” of polyoxymethylene including “LLDPE and polyoxymethylene separation (de-lamination)” (Kosinski at col. 3, lines 15-23), which would likely lead one skilled in the art to believe that inclusion of a higher percentage of polymer would result in decreased adherence capacity of the polyoxymethylene composition. As this is contrary to the teachings of the present invention, Kosinski’s disclosure teaches away from the present invention, as well, again making a combination of Nakamura with Kosinski to arrive at the current invention improper.

Thus, given this legal framework and the above disclosures, Applicants assert that the combination of Kosinski with Nakamura to arrive at the present invention is improper because Kosinski teaches away from its combination with Nakamura and also teaches away from the present invention.

In addition to the above divergent teachings in these references, Kosinski teaches that only LLDPE is useful in the invention (Kosinski at col. 7, lines 36-42), which, as argued in detail in the previous Response, does not fall within the scope of

the present invention (see May 3, 2007, Response at pages 5-6). In fact, Examiner seems to concede this point in the most recent Office Action, arguing instead that it is the LDPE disclosure of Kosinski that meets the limitations of Claim 1. August 8, 2007 Office Action at page 3, no. 6. However, Kosinski clearly discloses that addition of LDPE is not useful in that invention. Kosinski at col. 7, lines 36-42 and Table I. By doing so, Kosinski teaches specificity of the invention for a particular type of polymer, LLDPE, and thereby teaches away from any combination of that reference with a reference utilizing a different polymer, such as Nakamura. Because these references teach away from their combination, it would again not have even been obvious to try a combination of Nakamura with Kosinski to arrive at the compositions of the current invention.

Further, even if these references did not contain adverse teachings, their combination fails to render the current invention obvious. First, Kosinski requires the use of one particular polymer, LLDPE, to improve the elongation properties of polyoxymethylene compositions (Kosinski at col. 2, lines 45-49), while Nakamura requires the use of a different thermoplastic, a polycarbonate resin, to improve the impact resistance and thermal stability of a polyoxymethylene composition (Nakamura Abstract). Thus, even if Kosinski teaches that its polyoxymethylene compositions could be used as a substrate in a layered composition, there would be no suggestion that the compositions of Nakamura could be so used, since Nakamura involves different compositions and different desired properties. It would therefore not have even been obvious to try a combination of Nakamura with Kosinski to arrive at the current invention's compositions with improved adhesive properties.

Similarly, Kosinski relates to improving the elongation properties of a polyoxymethylene composition, while Nakamura relates to improving the mechanical properties (i.e. impact resistance and thermal stability) of a polyoxymethylene composition. Neither reference makes any suggestion, nor would the state of knowledge of the art have suggested, that any combination of these references would have produced a polyoxymethylene composition having improved adhesive properties, as are claimed in the present application. The mere fact that Kosinski suggests that the invention's compositions can be laminated says nothing about the quality or level of adhesion of any layers laminated on the surface. In fact, these

references would not have even made the present invention obvious to try, as nothing in those disclosures or elsewhere would have led one skilled in the art to believe that improved adhesive properties could result from the composition of the present invention.

Regarding Claim 16, the present amendments thereto clarify that the non-acetal thermoplastic polymer is an olefin copolymer or terpolymer selected from ethylene-vinyl acetate copolymer and/or ethylene butyl acrylate carbon monoxide terpolymer. Applicants believe that none of the cited references teach the olefin copolymer or terpolymer of Claim 16 and thus request removal of the obviousness rejection of this claim.

For all of these reasons, Applicants respectfully request that this rejection be withdrawn and the claims allowed.

Examiner has also rejected Claims 1, 5, 7, 9-13, and 16 under 35 U.S.C. § 103(a) as being obvious over JP02027615A (Nakagawa) in view of JP 2002309064A (Nakamura). Applicants respectfully traverse this rejection.

As an initial matter, neither Nakagawa nor Nakamura make any mention of improved adherence of polyoxymethylene compositions, or even adherence to polyoxymethylene at all, therefore demonstrating a general lack of motivation or suggestion to combine these references to arrive at the current invention. In fact, this lack of disclosure relating to adherence demonstrates that that it would not even have been obvious to try such a combination of references to improve the adherence properties of polyoxymethylene.

Further, Nakagawa, which teaches a polyoxymethylene insulating layer between a signal wire and a ground conductor, is concerned with absorption of strain due to linear expansion caused by temperature changes (Nakagawa Abstract). Nakagawa is therefore concerned not with the adherence properties of polyoxymethylene, but with the insulating properties of polyoxymethylene, namely the ability of this substance to absorb a linear expansion strain. Because this reference relies on the properties of native polyoxymethylene to accomplish this task, one of ordinary skill in the art would have had no motivation to combine the Nakamura polyoxymethylene composition with the disclosure of Nakagawa, as the

entire purpose of the Nakamura composition is to change those very same physical properties of polyoxymethylene upon which Nakagawa relies. While Examiner states that the motivation to combine these references “would have been to improve the impact resistance, dimensional stability, and mechanical properties of said laminate,” Applicants assert that it is at least as likely, and probably even more likely, that these Nakamura “improvements” would have been detrimental to the Nakagawa invention. The physical properties purportedly improved by Nakamura (dimensional stability, impact resistance, and thermal stability) appear to relate to the “toughness” of the polyoxymethylene, likely increasing the composition’s rigidity. However, the Nakagawa disclosure suggests that less rigid polyoxymethylene would be more desirable in that invention in order to allow the material to move around slightly to accommodate the linear strain taking place due to differing coefficients of expansion of the other materials present. Thus, it again would not have been obvious to combine, or even obvious to try to combine these two references to arrive at the present invention.


Further, as noted above, Claim 16 has been amended to clarify that an olefin copolymer or terpolymer is the at least one non-acetal thermoplastic polymer. Applicants believe that the claim, as amended, should be nonobvious over Nakagawa in view of Nakamura.

For all of these reasons, Applicants respectfully request that this rejection be withdrawn and the claims allowed.

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Summary

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 501447 (Potter Anderson & Corroon L.L.P.).

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